DOCUMENT RESUME

ED 217 969 PS 012 861

AUTHOR Honig, Alice Sterling
TITLE Developmental Effects on Children of Pregnant Adolescents.
PUB DATE [80]
NOTE 22p.; Expanded version of paper presented at the Annual American Medical Association.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Adolescents; *Child Development; *Family Problems; *High Risk Persons; *Infants; Intervention; Maturity (Individuals); *Parents
IDENTIFIERS *Adolescent Parents

ABSTRACT

Among children of teenage mothers the probability of developmental problems and physical risks is increased$by the mother's physical and social youthfulness and lack of life experience and skills. Some problems of these children stem from adolescent parents' own struggles with tasks unique to their stage of life. Lack of information regarding prenatal care and parenting may be more common among teen parents and may thus result in more developmental difficulties for the infant. Some infant and child problems reported are not directly the result of teen pregnancy per se but may occur as a by-product of interference with life opportunities (such as educational advancement for the mother) which have had to be terminated or limited during pregnancy and after childbirth. In addition, the social milieu in which teenage parents usually live may affect their child's development. Interventions made with the teenage mother and her child should be broad-based, taking into account the entire family context; optimally, they should also be built into the community's social support system. (RH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

ED217969

PS 01 2861

Developmental Effects on Children of Pregnant Adolescents

Alice Sterling Honig, Ph.D.

Syracuse University College for Human Development

Those who serve pregnant or parenting teenagers often focus on medical risks and the provision of services to the young mother. The proportion of children currently born to teen parents is so high - one in five births - that we cannot ignore possible developmental hazards to which these children may be particularly vulnerable. Since teen parents often must find outside caregiving services for their children in order to continue schooling or job training, both home and group day care workers as well as outreach home visitors and counselors working with young parents need to be aware of potential risks in the development of children born of children.

Among sexually active teenage females, only one in five uses contraception consistently. Yet young girls who are pregnant are usually totally unprepared for the pregnancy experience. And they are overwhelmingly unprepared in terms of the parenting knowledge and skills required to rear the children who are born. Adolescents are having sexual relations earlier and more frequently today. Every year more than one million 15-19 year olds (10% of the young women in this age group) become pregnant , and younger teens are becoming pregnant in increasing numbers. (Finkelstein, 1980). The great majority of teen mothers (9 out of 10) elect to keep their babies. Developmental effects need to be looked at in terms of the prenatal and postnatal environment and conditions for infant growth and development.

Much of the current literature focuses on the physical condition and sociological status of the pregnant teenager. Few studies have dealt with developmental outcomes

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Alice S. Honig
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

1 Expanded version of paper presented at American Orthopsychiatric Association

for children or with teen parenting practices. Yet, by focusing on the teen parent one can gather information and insights concerning potential difficulties that may arise developmentally for the fetus initially and later for a baby. The reason why assessment of risk for children of adolescent pregnancies is difficult is that teen pregnancy, per se, at least in the later teens, does not bring with it an altogether unique set of problems. Many of the developmental difficulties experienced by the infants involved in teen pregnancy and parenting are much the same as those encountered by some infants of older parents, poor parents and single parents. Immaturity in parenting can be found at all ages. For example, a reason that some teens give for having a baby is "to have someone to love me." Such a "reason" may of course also motivate an older mother. The extent of care and nurturing that a real (rather than fantasied) infant requires may lead to extreme frustration, depression or anger on the part of the mother who herself wants and needs nurturing. The important point is that many of the developmental difficulties babies may endure in such cases are more likely to occur in conjunction with a more physically and emotionally immature mother. The probabilities of unwelcome developmental sequelae are enhanced by the physical and social youthfulness and lack of life experience and skills of the teen parent.[1]

Five areas relating to risk will be considered. Physical risks are higher for pregnant adolescents and for their babies. Second, some child problems stem from the adolescent parent's own struggles with developmental tasks unique to this life stage. Third, lack of information regarding prenatal care and parenting may be more

1. See Fraiberg (1975) for an excellent description of therapeutic work with young mothers whose inappropriate parenting endangers the physical and emotional health of their babies.

common among teen parents and thus result in more developmental difficulties for the infant. Fourth, some infant and child problems reported are not directly the result of teen pregnancy per se but result from interference with some life opportunities (such as education advancement for the mother) which have had to be terminated or limited during pregnancy and after childbirth. Lastly, the social milieu in which the teenage parent more frequently tends to live may affect the further development of the child.

Physical Risks

As far as physical risks are concerned, pregnant teenagers run a four-to-five times higher risk of pregnancy complications than a woman in her twenties. (Menken, 1972; Oppel & Royston, 1971). Complications such as toxemia, premature birth and higher infant mortality bring with them increased risks for mental retardation and physical defects for infants. Babies of young mothers are more likely to die during the first year of life. Where the baby is the outcome of a repeat pregnancy for the young mother, there is an even higher risk of death in the first year of life (Whelan & Higgins, 1973).

The percentage of babies who are of low birth weight (under 2,500 grams) is much higher for adolescent mothers (Baldwin & Cain, 1980). Low birth-weight infants have a higher probability of neurological defect and developmental delay.

Not only is the infant of a teenage mother at greater risk of death, defect, and illness than the infant born to a mother in her twenties, but the teenage mother herself is more likely to die or to suffer illness or injury. "The death rate from complications of pregnancy, birth and delivery is 60% higher for women who become pregnant before they are 15" (Alan Guttmacher Institute, 1976, p.23). Such death

and the attendant transfer of infants to other caregivers may endanger the formation of early bonding and attachment between the infant and a primary caregiver. Such attachments have been found to relate strongly to later emotional and mental health of the infant (Blehar, 1980) and to later cognitive and social competency of toddlers and kindergarteners (Arend, R.A., Gove, F L & Sroufe, L.A., 1979).

Cigarettes. Cigarette smoking is rising sharply among teenage girls. Smoking has become habitual among 15% of girls between 12 and 18 years of age. Those who start young tend to smoke heavily and the heavy smokers run greatest risks. For example, women who smoke spend 15% more days sick in bed each year with less serious ailments as well as increase their chance for developing lung cancer, etc. Also, sick mothers cannot take care of babies as effectively as well mothers. Children of smoking mothers are at increased risk for respiratory ailments. For the pregnant teenager, the effects of smoking extend to the unborn child. Girls who smoke during pregnancy are more likely to have a stillborn infant or a baby who dies soon after birth (American Cancer Society, 1976). Carbon monoxide (a gas in cigarette smoke) levels are higher in fetal blood than in maternal blood. Nicotine causes the blood vessels of the placenta to narrow and diminishes the supply of food and espcially of oxygen to the fetus. Nicotine and carbon monoxide can retard the fetus' growth so that the infant is born below normal weight. Davie et al. (1972) in Great Britain have reported that smoking by pregant mothers is correlated with decreased reading scores later on for the children during public school years.

Stress. Severe stress of the pregnant mother is associated with complications of pregnancy and with poor condition of the baby. Stress makes for jumpier babies for months after birth. Teenagers, frightened at discovery of the pregnancy, perhaps experiencing abandonment by the biological father, perhaps undergoing punitive parental response to the pregnancy, may be at higher risk for stress effects on their unborn babies than older women with planned pregnancies. Overwhelmingly,

teen pregnancies are unplanned. Younger, least prepared (and presumably therefore more highly stressed) mothers show an extraordinarily high incidence of physical abuse and neglect (Phipps-Jonas, 1980).

Alcoholism. More teens are using alcohol today. Moderate drinkers who give birth often deliver babies with lower than expected birth weights. Low birth weight is more likely to be associated with developmental difficulties. Babies of heavy drinkers have been born with higher incidence of facial bone abnormalities and brain damage. Even two drinks per day seems to increase the rate of birth anomaly (Streissguth, et al., 1980).

Drug effects. Two aspects of drugs need to be considered. One concerns increased use of medication for adolescent deliveries, as they are more prone to complications. Analgesia and anesthesia during labor and delivery have been shown to have a depressing effect on infant sensorimotor functioning for at least the first four weeks (Bowes et al., 1970). If a mother does not have a very alert or responsive baby, the bonding process which is so important for ensuring adequate maternal love and care may be affected (Honig, 1979).

More babies are being born to heroin and angel-dust addicted mothers. Heroin affected babies have more rapid eye movements, greater variability in heart rates and no truly quiet sleep (Schulman, 1969). Marked tremors, high pitched crying and inconsolability are, as well, effects associated with withdrawal symptoms in infants born to drug addicted mothers who are on methadone. Again, attachment difficulties are likely to be higher for babies more difficult to soothe, and perhaps more likely to require incubator care and medication for withdrawal symptoms.

Adolescent Developmental Tasks in Relation to Child Development

An important factor in assessing the impact of adolescent pregnancy on infant development is the developmental stage of the pregnant mother. According to Eriksonian theory, the adolescent may be struggling with two major nuclear conflicts: identity vs role diffusion and intimacy vs isolation. Grappling with such unresolved psychosocial conflicts, the adolescent may be ill prepared (in terms of time, energy and know-how) to give sufficient and sensitive mothering to an infant.

Peter Blos (1979) has summarized the adolescent's tasks as:

1. The loosening of childhood ties to parents and the crystallization of an adult personality.
2. The reworking and reintegration of residues of past trauma and deprivation.
3. The establishment and clarification of sense of oneself as having a unique history.
4. The resolution of sexual identity so that biological sexuality is integrated and coordinated with an adult gender role.

A recent report on a Conference on Adolescent Behavior and Health organized by the Institute of Medicine, National Academy of Science (1978) comments that early adolescents are very responsive to their social environment, especially their youth culture. Pubertal changes predispose an adolescent to preoccupation with her or his body image. Feelings of isolation, purposelessness and boredom may become prominent during adolescence. If these are not constructively handled, they can lead to maladaptive behavior inimical to good health. Solnit (1979) has further observed that as a consequence of such changes and forces "the adolescent is simultaneously

pulled by regressive forces and pushed by maturational thrusts. As a result, almost all of an adolescent's felt needs are psychologically conflicted....The research for competence is also a reaction to the unsettling of self esteem....Developmental capacities, during adolescence, proceed rapidly, usually in dissynchrony or disharmony with each other" (1978, pp. 14-15).

It becomes apparent, then, that some of the problems in child development associated with early mothering have to do with the difficult developmental tasks in which the adolescent has become engaged but which are as yet unresolved. Indeed, early mothering may "freeze" many of these tasks at unfinished and conflicted levels. As an example, a young teenager seeking ways to acquire independence from parents may find herself after the birth of the baby in an increasingly dependent role vis a vis her parents.

Research on psychological attributes of adolescent parents increases awareness of the potential risks for their children. There is some evidence that the pregnant adolescent begins her parenting with low selfesteem, and (perhaps normal for any teenager) an inability to respond to the changing reality of her physical and social development (Abernathy et al., 1975; Schiller, 1974). Zongker (1977) has also found, in a comparison of non-pregnant school-age girls with classmates who were pregnant, that the pregnant girls had lower self-esteem, greater feelings of worthlessness, more conflict with family members, and greater evidence of defensiveness. Such parental characteristics may adversely affect the mother-baby relationship and the child's emotional development.

In intensive interviews with teen mothers, the most prominent problem reported after financial difficulties was that of isolation and loneliness (Cannon-Bonventre and Kahn, 1979). For many of the mothers in this study, isolation from former peers and school friends and the inability to link up with a new social network after child-

bearing were stressful aspects of their lives. This phenomenon was found for married as well as single adolescent mothers. The young mothers themselves reported that "the absence of a network of friends contributed to the probability of child abuse and neglect, depression, suicide, and marital stress" (p.9). Thus, it would seem, that at the very least, agencies involved in services to teen parents need to help them find a network of friends with whom they can share and talk over problems, among them, child-rearing problems.

The interviews noted that none of the teen parents with paid employment reported such feelings. Such research finds should increase the efforts of professionals to provide job taining and employment opportunities plus quality day care facilities for teen mothers in order to prevent developmentally unwelcome disturbances in the child due to maladjustments and tensions in the teen parent and consequently in her relationship with the child.

Lack of Parenting Knowledge and Skills

Perhaps the most extensive study of teenage parents' knowledge of child development has been conducted by de Lissovoy (1973). He studied 48 married teenage couples who had become parents during the high school age period. All lived in small towns or rural areas. Child-rearing information and practices were determined by asking the teen parents when most infants reach certain developmental milestones, such as sitting up alone, toilet training, first steps, etc. Secondly, he asked the mothers to give their solutions to common childrearing problems, such as how to get a baby to eat something that he or she does not like. The responses were used to rate the mothers on five point acceptance and control scales. Informal in-home observations were made by the researcher during administration of interviews and questionnaires. His research led de Lissovoy to conclude that these parents were "impatient, insensitive, irritable and prone to use physical punishment with their children" (p. 22).

One striking find was that the teen parents held very unreasonable expectations as to when children should accomplish important developmental tasks. Both mothers and fathers gave very low age estimates for all nine areas of development on which they were questioned. Sitting alone normally occurs at about 28 weeks. Estimates by the mothers and fathers respectively were 12 weeks and 6 weeks.

Unrealistic parental expectations have also been found to err in the direction of not expecting visual and verbal accomplishments from tiny babies. Epstein (1979) found that in her sample, teen mothers were unaware of the needs of babies for vocal, visual and cognitive stimulation. Sugar (1979) found that adolescent mothers gave significantly less adequate stimulation to infants during the first six months of life than did adult mothers. Osofsky and Osofsky (1970) rated teen mothers in their study as providing very little verbal stimulation to their infants. Williams (1977) reported a tendancy for young mothers to feel that verbal and visual stimulation will spoil a child.

Both early and late expectations based on parental ignorance of child development norms can lead to parenting practices inimical to optimal child development. If a teen mother or any mother has very low expectations for her baby's language and cognitive development, she is unlikely to provide the kind of stimulation associated with most desirable developmental outcomes in the early years. Some support for this argument may be found in a study by Ramey et al. (1979). Longitudinal observations indicated that mothers of infants at risk for intellectual retardation due to sociocultural factors interacted with their babies in ways which predicted lower Stanford-Binet intelligence scores at three years in comparison to general population control groups. Similar findings have been reported by Bradley & Caldwell (1976) for the first five years of life.

Baldwin & Cain (1980) report on several projects that have found lowered developmental and achievement scores for children of teen mothers. Lowered Bayley scores at eight months, lower Stanford-Binet scores at four years and lower WISC and Wide Range Achievement Test scores in comparison to matched controls, were found in a National Institute of Child Health and Human Development project. Lower mental and motor development scores were found by Sandler for 14 to 19 year-old mothers compared to mothers in their twenties. On the Caldwell Preschool Inventory, Furstenberg found that older preschool children born to black, poor, urban teenagers attained significantly lower scores compared with matched controls. In a longitudinal study of long-range intellectual effects of adolescent pregnancy, Hardy et al. (1978) found that at 12 years children born of adolescent mothers performed generally less well academically and had repeated a school grade more often than children of older women. Some outcomes, of course, may be related more strongly to socioeconomic disadvantage (Chilman, 1979) and curtailment of education of the adolescent parent.

Teen parents may have little understanding of the needs of infants for close, dependent attachments to parenting persons. The result may be forcible attempts to have the child become more independant earlier and fewer attempts to maintain close attachments with their young children (Gutelius, 1970; Oppel & Royston, 1971) in comparison with older mothers. Such children were found to be more dependent and distractible and exhibit more behavioral problems than controls. In such cases, emotional development of the children is certainly at risk.

Nutritional practices of young mothers may also place their children at risk. A clinical example or two may illuminate this problem. At a workshop for teen-age parents, a young fifteen year old mother took out a baby bottle and shoved it in the mouth of her eight week old infant seated in an infant seat on the table in front of her. Sputtering and gulping avidly the baby finished the bottle very quickly, vomited some, and proceeded to chew ravenously on his fists. The young mother, who

had made no attempt to pick up or cuddle the infant during this feeding so rapidly completed, reported cheerfully that her mother had told her to make large holes in the nipple so that the feeding could go faster. When asked to notice her baby's fist-sucking, the teenager was not able to see for herself the infant's distress. When asked to think about how she could alleviate his strong need for more sucking, the mother whipped out a bottle of water into which she had poured much sugar (on grandmother's advice, she reported) and proceeded to again feed the baby using a bottle with a large holed nipple.

For the past several years the author has been conducting research with Dr. Frank Oski at Upstate Medical Center in New York State, on the effects of intramuscular injection of iron (Imferon) for infants with iron deficiency anemia (1978). Lowered attention span, lowered I.Q. scores, irritability and poorer fine motor skills were found. Iron therapy improved scores markedly within one week for infants randomly chosen, compared to their controls who received therapy one week later. These babies were born to teenage mothers. However, all were also from low-income homes. It may be difficult to untangle effects of social situation and early mothering. However, the chances are higher that younger mothers will be unaware of good infant nutritional practices or, for that matter, of the harmful effects of ingestion of lead-paint chips.

Lack of Options for Teen Parents

The pressure of early parenting sometimes forecloses an adolescent's options for schooling or a stable two parent family. Furstenberg (1976a; 1976b) compared 331 adolescent mothers with 221 of their classmates in a six year study in Baltimore. The adolescent mothers were more likely to marry by age 18 and twice as likely to have the marriage break up within three and a half years. Teen mothers had higher fertility rates. One year after delivery over 80% of them wanted to wait at least

three years before becoming pregnant again. Yet, by the end of the six year study, two-thirds of them had had at least two pregnancies and nearly one-third had had three or more. Only one-fourth of their classmates had had more than one pregnancy. This is another example of the vulnerability of pregnant adolescents to loss of choice. The average teen mother completed about two years less schooling than her classmates five years after pregnancy. In general, this study established findings typical for pregnant teens: disruption of schooling, economic problems, marital instability and difficulty in regulating family size. As Russell (1980) has noted,"early and unscheduled parenthood denies the young parent the training, material resources, and social support that she or he might have had if the transition to parenthood had been delayed" (p.52). Important developmental growth experiences such as finishing schooling, early job experience and living on one's own prior to assuming parenting responsibilities may be foreclosed options for many teen parents. The loss of options and curtailment of choices may lead to resentment of the infant and inability to deal appropriately or lovingly with infant problems while the parent has so many of her own.

The Social Milieu of The Teen Parent

The social milieu in which teen parents find themselves forced to function is often not guaranteed to help an infant or young child flourish. Gunter and colleagues have concluded in a review of research on the influence of adolescent childbearing on subsequent developmental outcome, "the outlook for offspring of adolescent mothers who come from deprived groups is dismal. To the extent that a large majority of these mothers are unmarried and from deprived backgrounds, (the) risk....is increased (1980, p.24).

Socioeconomic effects are particularly striking for babies born lagging developmentally in early infancy. In a study of 3037 infants, those retarded at eight months and reared by lower social class families were seven times more likely to obtain IQs under 80 at age four than if they were reared by families in a higher social class. Thus poverty effects and at-risk birth situations can be offset or compounded by the rearing environment provided for the infant (Willerman, Broman and Fiedler, 1970). Intervention and enrichment projects with low-income teen mothers and their infants have shown how quality day-care for infants, toddlers and preschoolers plus in-home support for young families can nourish the learning competence of the children (Lally & Honig, 1977).

Sociologically, the teen parent is at-risk financially and materially compared to older parents. The Guttmacher Institute's (1976) figures reveal that teen mothers face greater risk of unemployment, Welfare dependency, poverty, school dropout and increased numbers of unwanted pregnancies beyond the first. Eight of ten who become mothers at 17 or younger do not complete high school. Yet almost all men and women who did not have children before age 20 receive high school diplomas, when groups are controlled for socioeconomic class and race (Card & Wise, 1977). Sometimes the social network of the family, although providing shelter for the teenage parent, is not conducive to harmonious relationships which can best support a child's emotional stability and future mental health (Honig, 1978). Case histories may give some idea of social distortions that can occur.

Case 1. Mother, age 16, lives with her own mother and her 13 month old baby. "My baby is real bad", she confides. "She gets into the garbage and I have to slap her all the time. She is so bad." When asked if another arrangement could be made to keep the garbage off the floor and out of reach of a creeping, curious baby, the young mother vigorously denied that there was any other place the garbage could be put. The baby must, it seems, remain "bad".

One wonders what life scripts of the young mother have taught her so potently that a young child must be bad!

Case 2. Teenage mother comes to the Pediatric Clinic with her two and a half year old son and small newborn daughter by a different father. During the entire half-hour period in the waiting room before the nurse calls the mother into an examination cubicle, the mother totally ignores the boy child and coos and smiles at the tiny infant. The boy child reminds the mother of a disappointing and broken relationship with his father. The teen mother lavishes attention on the tiny new one. The oldest child receives a totally cold message. He sits with downcast eyes and an unhappy expression several seats away from his mother.

Case 3. A 17 year old, 9 months pregnant, says in a counselling session "Now that I'm pregnant I get anything I want. For the first time my mother and I are close - she treats me like I'm grown up. We never used to talk to each other."

Case 4. Fourteen year old entered a pregnancy program when eight months pregnant. She was scared, tense, and untrusting. She later confided that this was her second pregnancy. A year earlier at age 13 her mother forced her to have an abortion. This time she did not tell her mother until she was seven months pregnant - too late for another abortion. Her anger and hatred for her mother and the doctor permeated everthing that this girl said. Now, two years later at age 16, she is living with her baby and boyfriend. No longer in contact with her mother, she is dealing with a whole new set of life problems.

Many and varied are the difficulties that can militate against a secure and loving environment attuned to an infant's needs. Many a teen parent in counseling has commented bitterly that the grandmother "acts like it's her baby". It may be helpful for counselors with teen mothers to consider writing contracts when working with the total family. Who will look after the baby while the mother is at school? after school? What if the young father wants to take the baby out of the mother's

home and keep it at his mother's for a weekend?

We have scarcely begun to examine the possible issues that arise in teen parenting situations, let alone have research data to help us offer more appropriate choices for handling some of these situations. Suffice it to say that some of the situations, such as when the young girl bitterly rejects any further contact with the father, or vise-versa, do not suggest a good prognosis for psychosexual development of the child if the bitterness is transmitted over a long period of time to the child.

Conclusions

The impact of early childbearing and childrearing on the child has to be considered in the light of the impact on the whole family (Furstenberg, 1980). Where there are a number of supportive caregivers "collaborative childcare arrangements protect the infant, but they also shelter a young mother from assuming the full brunt of parental responsibilities precipitously" (p. 78). The delicate balance between overprotecting the adolescent from assuming too many new responsibilitie that may be overwhelming and on the other hand overwhelming her with so much responsibility plus isolation so that she neglects and/or abuses her baby requires us to pay individual attention to each pregnant teenager. If we wish to ensure more favorable outcomes for children, we will need to take family context into account, as well as the mother's fund of knowledge about child development and her own family history as it may or may not have prepared her to nurture with sensitive responses as well as delight in her infant.

Professionals cannot afford to move narrowly on one front. Perhaps the wider the variety of support services and practical information and help that can be offered, the greater the chance for the child to have a normal socioemotional and intellective development. Easy-to-read parenting materials, such as those provided by New Readers

Press, or the Gordon & Wollin book for young parents (1975), should be part of community resources. Programs that care for pregnant teens after delivery should consider the mother's educational needs, parenting skill needs and infant care needs in planning services. For example, the Kalamazoo program (Sung & Rothrock, 1980) provides four components - an education unit, child/day care unit, health unit, and social services unit.

Child care workers can do much to provide a secure environment for youngsters to grow while their parents return to schooling. Day care workers can also serve as loving, responsive, language expressive models for young parents to learn appropriate child-rearing skills. Planned parenthood facilities in a community can be involved in programs to focus on the goal of prevention of repeat pregnancies among the students. Primary care physicians who care for pregnant adolescents need to become alert to the potential developmental risks for babies born to and reared by young mothers.

Optimally, long term public policy goals should focus on building enough community components into the system for serving pregnant and parenting teenagers so that potential for child abuse and neglect is decreased, adolescent school completion is promoted, and nurturing skills with infants and young children are developed and supported among teen parents.

Abernathy, V., et al. Identification of women at risk for unwanted pregnancy. American Journal of Psychiatry, 1975, 132, 1027-1030.

Alan Guttmacher Institute. 11 million teenagers: what can be done about the epidemic of adolescent pregnancies in the United States. New York: Planned Parenthood Federation of America, 1976.

American Cancer Society. When A Woman Smokes, December 1976.

Arend, R., Gove, F.L. & Sroufe, L.A., Continuity of individual adaptations from infancy to kindergarten. A predictive study of ego-resiliency and curiosity in preschoolers. Child Development, 1979, 50, 950-959.

Baldwin, W. & Cain, V.S.. The Children of Teenage Parents. Family Planning Perspectives, 1980, 12, 34-43.

Blehar, M. Development of Mental Health in Infancy. National Institute of Mental Health Science Monographs, No. 37, 1980. DHHS Publication No. (ADM) 80-962.

Blos, P. The Adolescent Passage: Developmental Issues. New York: International Universities Press, 1979.

Bowes, W.A., Brackbill, Y., Conway, E. & Steinschneider, A. The effects of obstetrical medication on fetus and infant. Monographs of the Society for Research in Child Development, 1970, 35,(No. 4).

Bradley, R.H. & Caldwell, B.M. The relation of infant's home environments to mental test performance at fifty-four months: A follow-up study. Child Development, 1976, 47, 1172-1174.

Cannon-Bonventre, K. & Kahn, J. The ecology of help-seeking behavior among adolescent parents. Executive Summary. Cambridge, Mass.: American Institutes for Research, 1979.

Card, J.J. & Wise, L.L. Teenage mothers and teenage fathers: The impact of early childbearing on the parents' personal and professional lives. Family Planning Perspectives, 1977, 10, 199-207.

Chilman, C.. Adolescent sexuality in a changing society: Social and psychological perspectives. U.S. Department of Health, Education and Welfare, D.H.E.W. Publication No. (NIH) 79-1426, Washington, D.C.: U.S. Government Printing Office, 1979.

Davie, R., Butler, N. & Goldstein, H. From birth to seven: A report of the National Child Development Study. London, England: Longman 1972.

DeLissovoy, V. Child care by adolescent parents. Children Today, 1973, 2, 22-25.

Epstein, Ann S. Pregnant Teenagers' Knowledge of Infant Development. Paper presented at the Biennial Meeting of the Society for Research in Child Development, San Francisco, March 1979.

Finkelstein, J.W. Teenage pregnancy and parenthood. I. Review of the literature, Unpublished manuscript, 1980.

Fraiberg, S., Adelson, E. & Shapiro, V. Ghosts in the nursery: A psychoanalytic approach to the problem of impaired infant-mother relationships. Journal of the American Academy of Child Psychiatry, 1975, 14, 387-421.

Furstenberg, F.F., Jr. The social consequences of teenage pregnancy. Family Planning Perspectives, 1976, 8,(No.4), 148-164 (a)

Furstenberg, F.F., Jr. Unplanned parenthood: The social consequences of teenage childbearing. New York: Free Press, 1976. (b)

Furstenberg, F.F. Burdens and benefits: The impact of early childbearing on the family. Journal of Social Issues: Teenage Parenting: Social Determinants and Consequences, 1980, 36 (no.1), 64-87.

Gordon, S. & Wollin, M.M. Parenting: A Guide for Young People. New York: Oxford Book Company, 1975.

Gunter, N.C. & Labarba, R.C.. The consequences of adolescent childbearing on postnatal development, International Journal of Behavioral Development, 1980, 3, 191-214.

Gutelius, M. Child-rearing attitudes of teenage Negro girls. American Journal of Public Health, 1970, 60, (1), 93-104.

Hardy, J.B., Welcher, D.W., Stanley, J. & Dallas, J.R. Long-range outcome of adolescent pregnancy. Clinical Obstetrics and Gynecology, 1978, 21, (No.4), 1215-1232.

Honig, A.S. What you need to know to help the teenage parent. Family Coordinator, 1978, 27, 113-119.

Honig, A.S. A review of recent infancy research. American Montessori Society Bulletin, 1979, 17, (No.3&4)

Honig, A.S. & Oski, F. Developmental scores of iron deficient infants and effects of therapy. Infant Behavior and Development, 1978, 1, 168-176.

Institute of Medicine, National Academy of Sciences Conference Workshop on Family and Social Environment. (Co-chaired by B. Hamburg and A.J. Solnit), Washington, D.C., October, 1978.

Lally,J.R. & Honig, A.S. Final report, family development research program (ERIC Document No. ED 143 458). Syracuse, New York: Syracuse University Children's Center, July 1977.

Menken, J. The health and social consequences of teenage childbearing. Family Planning Perspectives, 1972, 4, 45-53.

Oppel, W.C. & Royston, A.B. Teenage births: Some social, psychological and physical sequelae. American Journal of Orthopsychiatry, 1970, 40, 751-756.

Osofsky, H. J., & Osofsky, J.D. Adolescents as mothers: Results of a program for low-income pregnant teenagers with some emphasis upon infant's development. American Journal of Orthopsychiatry, 1970, 40, 825-834.

Phipps-Yonas, S. Teenage pregnancy and motherhood: A review of the literature. American Journal of Orthopsychiatry. 1980, 50 (3), 403-431.

Ramey, C.T., Favian, D.C. & Campbell, F.A. Predicting IQ from mother infant interactions. Child Development, 1979, 50, 804-814.

Russell, C.S. Unscheduled parenthood: Transition to 'Parent' for the teenager, Journal of Social Issues, 1980, 36, (No.1), 45-63.

Schiller, P.A. Sex attitude modification process for adolescents. Journal of Clinical Child Psychology, 1974, 3, 50-51.

Schulman, C.A. Sleep patterns in newborn infants as a function of suspected neurological impairment of maternal heroin addiction. Paper presented at the meeting of the Society for Research in Child Development, Santa Monica, California, March 1977.

Solnit, A.J. The adolescent's search for competence. Children Today, 1979, 8, 13-15.

Streissguth, A.P. Landesman-Dwyer, S., Martin, J.C. & Smith, D.W. Teratogenic effects of alcohol in humans and laboratory animals. Science, 1980, 209, 353-361.

Sugar, M. Developmental issues in adolescent motherhood. In M. Sugar (Ed.), Female Adolescent Development. New York: Brunner/Mazel, 1979.

Sung, K. & Rothrock, D. An alternate school for pregnant teenagers and teenage mothers. Child Welfare, 1980, 59, 427-436.

Whelan, E. & Higgins, G. Teenage childrearing: Extent and consequences. Washington, D.C.: Child Welfare League of America, Inc./Consortium on Early Childbearing and Childrearing, 1973.

Willerman, L., Broman, S.H. & Fiedler, M. Infant development, preschool IQ and social class. Child Development, 1970, 41, (1), 69-77.

Williams, T.M. Childrearing practices of young mothers. American Journal of Orthopsychiatry, 1974, 44, 70-75.

Zongker, C.E. The self concept of pregnant adolescent girls. Adolescence, 1977, 12, 477-488.